

**I.B.2.N.a.36. *QUERCUS PRINUS* (*QUERCUS COCCINEA*, *QUERCUS VELUTINA*)
FOREST ALLIANCE**

Rock Chestnut Oak (Scarlet Oak, Black Oak) Forest Alliance

Hopewell Furnace name: **Dry Oak–Heath Forest**

Concept: This alliance includes xeric oak forests strongly dominated by *Quercus prinus* or *Quercus prinus* with admixtures of *Quercus coccinea* and/or *Quercus velutina*, occurring in the southern and central Appalachians, Ridge and Valley, Cumberland Plateau, Piedmont, Interior Low Plateau, and possibly in the northern Appalachians. In the Piedmont and Ridge and Valley, and in areas transitional to these provinces, *Quercus stellata* and *Quercus marilandica* may be canopy associates. Other canopy/subcanopy associates include *Acer rubrum*, *Amelanchier arborea*, *Carya alba*, *Carya glabra*, *Cornus florida*, *Hamamelis virginiana*, *Magnolia fraseri*, *Nyssa sylvatica*, *Oxydendrum arboreum*, *Pinus rigida*, *Pinus strobus*, *Quercus alba*, *Quercus rubra*, *Robinia pseudoacacia*, and *Sassafras albidum*. In the Appalachians, a dense ericaceous shrub layer is characteristic, with species such as *Gaylussacia baccata*, *Gaylussacia ursina*, *Kalmia latifolia*, *Leucothoe recurva*, *Rhododendron maximum*, *Vaccinium pallidum*, and *Vaccinium stamineum*. In the upper Piedmont, *Kalmia latifolia*, *Vaccinium arboreum*, and *Vaccinium pallidum* are common. In the montane distribution of this alliance, forests of this alliance have replaced forests formerly dominated or codominated by *Castanea dentata*, and chestnut sprouts are common in the understory. Other shrub species found in forests of this alliance include *Chionanthus virginicus*, *Diospyros virginiana*, *Robinia hispida*, *Sassafras albidum*, *Styrax grandifolius*, *Symplocos tinctoria*, *Viburnum acerifolium*, *Viburnum prunifolium*, and *Viburnum rufidulum*. Herbaceous cover is typically sparse in these dry, rocky forests and species vary with geographic location. Some typical herbaceous species include *Antennaria plantaginifolia*, *Aureolaria laevigata*, *Chamaelirium luteum*, *Chimaphila maculata*, *Danthonia spicata*, *Dichanthelium commutatum*, *Dichanthelium dichotomum*, *Dioscorea quaternata*, *Epigaea repens*, *Galax urceolata*, *Galium latifolium*, *Gaultheria procumbens*, *Goodyera pubescens*, *Hieracium venosum*, *Lysimachia quadrifolia*, *Medeola virginiana*, *Monotropa uniflora*, *Potentilla canadensis*, *Pteridium aquilinum*, *Stenanthium gramineum*, *Uvularia puberula*, and *Uvularia sessilifolia*. These forests occur on convex, upper slopes and ridgetops, south-facing slopes, over thin, rocky, infertile soils in the Appalachians, typically below 3500 feet (1066 m), where windthrow and ice damage are common natural disturbances. In the Piedmont these forests occur on low mountains and hills, on rocky, well-drained, acidic soils, sometimes associated with outcrops of quartzite, or other resistant rock.

Range: This alliance occurs in the southern and central Appalachians, Ridge and Valley, Cumberland Plateau, Piedmont, Interior Low Plateau, and possibly in the northern Appalachians. It is found in Illinois, Indiana, Ohio, Connecticut, Delaware, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, Alabama, Georgia, Kentucky, North Carolina, South Carolina, and Tennessee, and possibly Maine (?), Maryland (?), Mississippi (?), and West Virginia (?).

States/Provinces: AL CT DE GA IL IN KY MA MD NC NJ NY OH PA RI SC TN VA WV

Federal Lands: DOD (Fort Knox); NPS (Carl Sandburg Home, Chickamauga–Chattanooga, Great Smoky Mountains, Harpers Ferry, Kings Mountain, Rock Creek, Russell Cave); TVA (Tellico); USFS (Bankhead, Chattahoochee, Cherokee, Daniel Boone, George Washington, Jefferson, Land Between the Lakes, Nantahala, Oconee?, Pisgah, Sumter, Talladega?, Uwharrie)

Synonymy: IA6d. Chestnut Oak Slope and Ridge Forest (Allard 1990); IA7d. Piedmont Monadnock Forest (Allard 1990); Appalachian sub-xeric forest, in part (Evans 1991); Chestnut Oak Forest, in part (Schafale and Weakley 1990); Piedmont Monadnock Forests, in part (Schafale and Weakley 1990); Oligotrophic Forest, in part (Rawinski 1992); *Quercus prinus*–*Quercus velutina* / *Vaccinium stamineum* Association (Fleming and Moorhead 1996); Chestnut Oak: 44, in part (Eyre 1980); Mixed Oak Forest (Swain and Kearsley 2001); Ridgetop Chestnut Oak (Swain and Kearsley 2001); Dry oak–heath forest (Fike 1999); Xeric Central Hardwood Forest (Smith 1991)

References: Allard 1990, Arends 1981, Callaway et al. 1987, Cooper 1963, DuMond 1970, Evans 1991, Eyre 1980, Faber-Langendoen et al. 1996, Fike 1999, Fleming and Moorhead 1996, Gibbon 1966, Golden 1974, Martin 1989, McLeod 1988, Mowbray 1966, Nelson 1986, Newell and Peet 1996a, Patterson 1994, Peet and Christensen 1980, Rawinski 1992, Rawinski et al. 1996, Schafale and Weakley 1990, Schmalzer 1978, Smith 1991, Swain and Kearsley 2001, Tobe et al. 1992, Wells 1974, Wheat 1986, Whittaker 1956

Authors: D. FABER-LANGENDOEN/D.J., RW, East

Identifier: A.248